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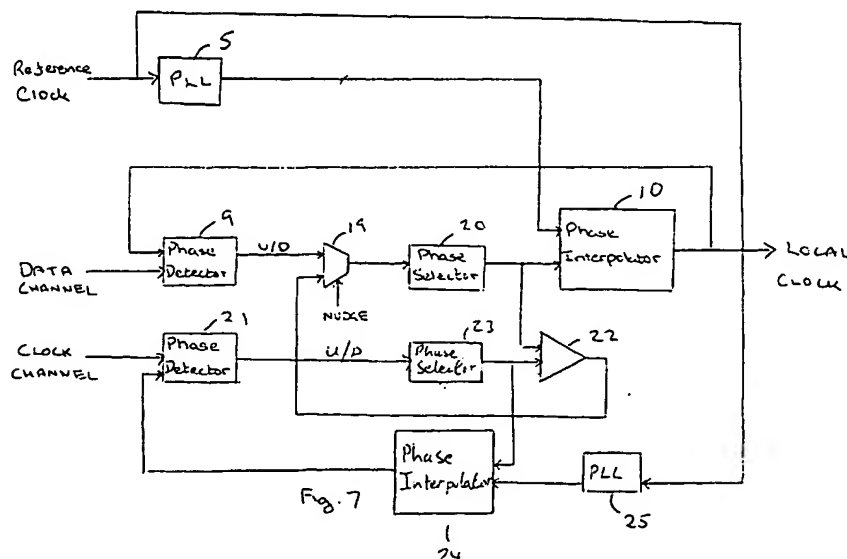
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(54) Method and apparatus for synchronising multiple serial datastreams in parallel

(57) In an integrated circuit receiving multiple serial data streams in parallel, a local clock is generated from each data stream and is synchronised with the data stream. Sometimes a data stream may have no transitions making it difficult to keep the clock synchronised with its data. A clock channel is provided, which always

has edges. A circuit is provided for each data stream which measures the time elapsed since the data stream had an edge. After a certain period, the phase of the local clock is nudged towards that of the clock channel. Thereafter, the longer there are no edges on the data stream the more frequently nudges towards the phase of the clock channel are made.





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EUROPEAN SEARCH REPORT

Application Number
EP 02 25 5105

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 166 979 A (WAGGENER WILLIAM N) 4 September 1979 (1979-09-04) * abstract * * column 2, line 26 - line 60 * * column 5, line 27 - line 37 * * column 6, line 1 - line 68 * * column 7, line 63 - column 8, line 1 * * figure 4 *	1-41	H04L25/14 H04L7/00
A	GB 1 571 784 A (PLESSEY CO LTD) 16 July 1980 (1980-07-16) * page 1, left-hand column, lines 13 - 47 *	1-41	
A	US 4 677 647 A (AOYAGI HIDEHITO) 30 June 1987 (1987-06-30) * abstract * * column 1, line 65 - column 2, line 25 * * figure 1 *	1-41	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H04L
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 2 December 2002	Examiner Baltersee, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 25 5105

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The members are as contained in the European Patent Office EDP file on
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02-12-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4166979 A	04-09-1979	AR 222004 A1	15-04-1981
		AU 513642 B2	11-12-1980
		AU 2486077 A	09-11-1978
		BR 7702901 A	16-05-1978
		CA 1119686 A1	09-03-1982
		DE 2721023 A1	01-12-1977
		EG 13329 A	30-06-1981
		ES 458606 A1	01-08-1978
		FR 2351549 A1	09-12-1977
		GB 1579488 A	19-11-1980
		GR 63199 A1	04-10-1979
		IE 45139 B1	30-06-1982
		IT 1101653 B	07-10-1985
		NL 7705119 A	14-11-1977
		NO 771514 A	08-11-1977
		OA 5657 A	30-04-1981
GB 1571784 A	16-07-1980	NONE	
US 4677647 A	30-06-1987	JP 61065551 A	04-04-1986
		CA 1274586 A1	25-09-1990
		GB 2165110 A ,B	03-04-1986

EPO FORM P0459

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